REMARKS

Applicant has added new claims 18 and 19 in order to alternately define the invention.

Applicant has amended claims 1, 6, 7, 9, and 11 solely to improve the readability and structure of the claims. No new limitation has been added, and no limitation removed from any one of the claims.

Applicant respectfully requests reconsideration of Examiner's rejection of claims 1, 2, 5 -7, and 9 - 17 under 35 U.S.C. §103(a). The Examiner has rejected these claims in view of the cited references of *Morimoto* (U.S. Patent No. 5,969,759) and *Ueda et al.* (U.S. Patent No. 4,837,630).

The *Morimoto* reference is directed to multi-output CCD devices that utilize image arrays broken into multiple sections, and corresponding shortened CCD registers for each of the image sections. By utilizing CCD registers which do not extend the entire length of the imaging array, drive frequency is reduced, and as a result, power consumption is also reduced. (See Column 1, lines 9 – 20 of Morimoto). Morimoto admits that prior art devices implemented such a structure, as shown in Fig. 1, but that the vertical-downward extension of the horizontal CCDs 102 to the output section 103 was not desired. Accordingly, Morimoto discloses offsetting subsequent horizontal CCD's, as shown in Fig. 3 of the disclosure. However, at no point does Morimoto disclose, teach, or suggest extending any one of the horizontal CCD structures in the horizontal direction. Rather, Morimoto actually teaches away from such a structure in Column 1, lines 9 – 10 and lines 43 – 57, in Column 3, lines 24 – 28, Column 7, lines 4 – 7, Column 8, lines 10 – 15 and lines 56 – 64, and Column 9, lines 37 – 40. Each and every one of these sections teaches that the length of the horizontal CCD

should be minimized in order to reduce drive frequencies, and thus reduce power consumption.

Ueda is directed to an image pickup device including an intermediate storage area including first and second vertical transfer registers for each column of the imaging array. A switch arrangement selectively transfers the charges from the image pickup section to either of the first and second vertical transfer registers disposed for each column. During a vertical blanking period, picture element signals corresponding to odd lines are read out from the image pickup section and are transferred to the first vertical transfer register in the storage region, and then picture element signals corresponding to even lines are read out from the image pickup section and are transferred to the second vertical transfer register in the storage region. During a horizontal blanking period after the vertical blanking period, the readout section independently reads out the picture element signals from the first and second vertical transfer registers in the storage section and into the first and second horizontal transfer registers.

Applicant submits that the Examiner's §103 rejection is insufficient for at least two reasons. First, any combination of the references is structurally impossible, as each reference requires particular structures in order to accomplish a particular type of read-out. The Ueda reference requires that all of the horizontal CCDs (2 in Fig. 1 and 4 in Fig. 9) extend the entire length of the imaging array. This is because of the read-out method employed, in which every-other pixel in the vertical direction of a single column is transferred to different horizontal CCDs via a split storage section. Due to this fact, it is impossible to divide up the imaging array of Ueda in the same way as Morimoto or Applicant's disclosure without losing

the ability to read-out certain pixels from the array. Each of the horizontal CCDs 17, 18, and 26 – 29 must extend the entire length of the imaging array in order to support the divided storage section 15/16.

Morimoto, on the other hand, requires shortened horizontal CCD structures that match the width of the divided imaging array sections in order to reduce the driving frequency and hence the power consumption of each horizontal CCD structure. Importantly, any combination of the references would either not provide support for the reduced power consumption of Morimoto, or would not provide support for the switched storage section read-out method of Ueda.

Applicant submits that the Examiner can not have it both ways. Applicant notes that in a similar circumstance, the predecessor court to the Court of Appeals for the Federal Circuit has held that the "Test for obviousness is not whether features of one reference may be bodily incorporated into another reference; rather, test is whether combined teachings render claimed subject matter obvious." *In re Wood*, 599 F2d 1032, 202 USPQ 171 (1979, Cust & Pat App). Furthermore, on the topic of inoperable combinations, the Federal Circuit has held that "If references taken in combination would produce a 'seemingly inoperative device,' we have held that such references teach away from the combination and thus cannot serve as predicates for a prima facie case of obviousness." *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1354 (Fed. Cir., 2001). In light of the forgoing, Applicant submits that the Examiner's rejection must be withdrawn, and the remaining claims placed into condition for allowance.

Second, Morimoto clearly and repeatedly teaches away from any such combination with Ueda. As noted by the Examiner, Morimoto is directed to a method of reducing the consumption of power of the imaging array by reducing the power consumed by the horizontal CCD registers. (See Column 1, lines 9 – 10 and lines 43 – 57, in Column 3, lines 24 – 28, Column 7, lines 4 – 7, Column 8, lines 10 – 15 and lines 56 – 64, and Column 9, lines 37 – 40). As shown in the Figures and described throughout the specification, this is accomplished in Morimoto by shortening the length of the horizontal CCD registers. Accordingly, Morimoto clearly teaches away from the use of horizontal CCD registers which extend the entire length of the imaging array. "We have noted elsewhere, as a "useful general rule," that references that teach away cannot serve to create a prima facie case of obviousness." *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1354 (Fed. Cir., 2001). Ueda requires full-length horizontal CCD registers in order to support the read-out method employed. Morimoto clearly and repeatedly teaches away from any incorporation of the full-length horizontal CCD registers of Ueda. Any combination of these two references relies upon Applicant's own disclosure and improperly uses it against him.

The Examiner stated on page 6 of the last office action that "the motivation [to combine] would have been to reduce the length of the wiring in a printed circuit to carry the output of both horizontal registers, also to arrange all the outputs at a closer position in order to read said outputs in a simultaneous fashion that would reduce the presence of noise due to the length of the wiring receiving the outputs form [sic] the horizontal registers." Applicant notes that the Examiner has failed to site to any portion of the references for the stated motivation to combine. Furthermore, Applicant has been unable to locate any portion of the

references which disclose such a motivation. If the Examiner intends to assert official notice under M.P.E.P. §2144.03, Applicant respectfully requests the Examiner indicate such in the next non-final action.

In any event, Applicant asserts that the prior art fails to support Examiner's position, but rather demonstrates that one of ordinary skill in the art *would not* have extended the horizontal registers against the teachings of Morimoto. Furthermore, regarding the Examiner's assertion that the motivation to combine is to reduce noise due to the length of the wiring receiving outputs from the horizontal registers, Applicants submit that extending the length of the horizontal registers and adding additional horizontal driving wirings (øH1 and øH2 in Fig. 4 of Morimoto) produces substantially more noise than a single extended wiring could ever add. In any event, under M.P.E.P. §2144.03(c), Applicant respectfully requests Examiner assert valid evidence to support his assertions.

For all the reasons set forth above, Applicant submit that the Examiner's rejection of claims 1, 2, 5 -7, and 9 – 17 must be withdrawn.

In specific regard to claims 15 – 17, Applicant submits that the Examiner can not have it both ways. If the Examiner argues that one of ordinary skill in the art would have desired to replace the reduced-length horizontal CCD registers of Morimoto with the full-length CCD structures of Ueda, then the combined structure fails to anticipate claims 15 – 17, which require a mixture of full-length and reduced length horizontal CCD registers. The Examiner cannot pick and choose to apply the motivation to some aspects of Morimoto but not others. For this additional reason, Applicant submits that the rejection of claims 15 – 17 must be withdrawn.

The Examiner's remaining references cited but not relied upon, considered either alone or in combination, also fail to teach applicant's currently claimed invention. Accordingly, Applicant respectfully submits that all claims now stand in condition for allowance.

In the event that it is deemed necessary, the Commissioner is hereby authorized to charge any fees due or to credit any overpayment to Deposit Account No. 50-3891.

Respectfully submitted,

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